AMERICAN DYESTUFF REPORTER

A Weekly Publication devoted to

DYESTUFFS, COLORS and ALLIED CHEMICALS

Circulating Wherever Dyestuffs are Used

Vol. I | New York, November 19, 1917 | No. 7

NOV 22 1917
LIBRARY OF
THE BARRETT CO

Color-Making Developments in France

(The French Chamber of Commerce states that the munition plants will be turned over to dye-makers at the conclusion of the war.)

In the past three years, France has succeeded in turning out in large quantities, and with many improvements articles for home consumption which before the war came entirely from across the Rhine, and the French did not believe they could manufacture. By the use of the munition plants, these articles are to be placed in world competition after the war at prices that, says the Paris Chamber, will surprise foreigners.

The Association Nationale d'Expansion Economique was founded on December 14th, 1915, under the patronage of the Paris Chamber of Commerce, and with the help of the principal economic associations it began by making enquiry into German competition. The Société d'Encouragement Pour l'Industrie Nationale organized two exhibitions of French products as substitutes for foreign articles, one in June, 1916, and the other in June, 1917. At this year's exhibition more than 100 firms were represented.

French manufacture of pharmaceutical products and matter for dyeing and coloring purposes has largely benefited by the spread of munition factories. Large works have been built in the suburbs of Paris and in the neighborhood of Lyons, St. Etienne, Roanne, and Annonay, for the preparation of acids, tar products, and explosives. These factories will be easily transformed in peace times into works for chemical and pharmaceutical products. The same engineers and workmen who are now manufacturing smokeless powder and melinite will be able on these premises with the same machinery to produce imitation silks, nitrobenzene or aniline.

Many large and influential societies have been organized with a view of extending national production on these lines. The Office des Produits Chimiques et Pharmaceutiques, formed in 1914, by dividing between the different firms the existing stocks of raw materials and the products left at the disposal of manufacturers by the War Office and military authorities, and by obtaining the demobilization of indispensable chemists, has reopened many factories that have been closed, or whose output had been vastly decreased since the beginning of the war. This association has provided for the manufacture of phenol and tars, and while helping with the making of phenol for synthesis, has also increased the output of picric acid, trinitrophenol, and other explosives.

The Syndicat des Matieres Colorantes, formed during the summer of 1915, includes the principal societies concerned in chemical manufactures, mining, metallurgy, coke furnaces, gases, and carbonization, dyeing materials, and leather, organic chemical manufactures, colors and printing inks, paper and wool, silk and cotton materials.

The Compagnie Nationale de Matieres Colorantes et Produits Chimiques, with a capital of 40,000,000 franc, has undertaken to supply French home-made products in place of those sent into the country by Germany prior to the war. This society has signed a contract with the government with a view to utilizing fac-

FOR FORTY-FIVE YEARS

LEADING distributors of Chemicals, Colors, Dyestuffs, Gums and Oils to the Textile Industry.

From time to time, we are receiving dependable shipments of ACID, BASIC, DIRECT, SULPHUR and "CIBA" FAST VAT DYES, and offer these in reasonable quantities.

Correspondence invited

A. KLIPSTEIN & COMPANY

644-652 GREENWICH STREET NEW YORK CITY

tories for explosives which have been built for the requirements of the war. On the conclusion of peace, the Compagnie will be given possession by the State of a certain number of munition plants. On the other hand, the company is bound to assure the production of coloring matters and dyes, and to pay over to the government a share of profits stipulated in the contract.

The Problem of Stains on Textiles

(This article is reproduced from a recent issue of "Fibre & Fabric" and should be of particular interest to those who have written the "Reporter" asking for suggestions on the removal of spots on textiles.)

In the weaving department stains may arise from faulty sizing, such as the rollers of the sizing machine being out of true and squeezing unevenly, so that portions of the warp retain more size than others, and may not be perfectly dried on these places. Wet size is well known to decompose very quickly, with the result that mildew forms, and if this is unnoticed at the time it will affect the cloth in either the subsequent dye or finish.

Sunshine stains are common enough on goods of all descriptions that have been exposed to direct sunshine, the cuttle edges or folds being the places generally affected, and more often occurring in greasy cloths than in those which have been scoured and dried out. Such places when dyed usually show up as light bars or stripes, exactly corresponding in size to the portion which has been exposed. Of course, when mordanted or dyed material is exposed to the sun's rays in a wet state, the stains are produced quicker than on dry goods, owing to the parts reabsorbing moisture from the non-exposed portions as fast as the sun dries them. An instance occurred to the writer where the dyer could not get his pieces level at any cost, cloudy places appearing after dyeing all over the cloth. The goods were high-grade woolens that had been soap scoured and dried out, and were perfectly clean in every respect. However, after trying all sorts of ways, the dyer, acting upon his own initiative, sent for two new undyed pieces, and boiled these up for ten minutes in a fairly strong bath of sulphuric acid only. On taking these out and examining, the fault was seen at once; big, cloudy, dark marks, had developed all over the cloth. These were oil marks from the soap residues which had never been properly rinsed from the goods, and while quite invisible in the form of soap, they showed up plainly when the soap was decomposed by the boiling acid, leaving the oil on the cloth in patches. The cause of this was the alteration of the scourer's wages from a fixed wage to payment by the piece, and in his haste to make more money under the new scheme the goods had been insufficiently washed off.

Rust and metal stains usually come from overhead droppings in the case of rust, where steam has condensed upon some rusty pipe or shaft. While fresh these stains are easily removed, and if the material is to be dyed in an acid liquor they can safely be ignored, as the acid will dissolve them. If, however, only neutral liquors are to be used, or the shade is a very delicate one when dyed, the stains should be taken out by hand, using a dilute solution of oxalic acid followed by a boil up in clean water before dyeing is commenced. Copper stains generally arise from oil droppings from brass bearings, where the friction has caused some grinding of the bushes. If new, the stains come out in the scouring, but if they have dried into the cloth then an actual verdigris stain is formed, and this is hastened if the lubricating oil used has acid properties. Mineral oils alone have no action upon metals, but in the refining of these oils, acids are often used and to remove the last traces is a very difficult matter.

Once a verdigris stain is formed the copper salt acts as a mordant, and such places are invariably darker in color after dyeing.

When piece-goods are carbonized the stains which sometimes form are very troublesome, and carbonizing itself is a very dangerous process for textiles to undergo, so that wherever it is possible to carbonize in the wool form this should be done. Of course, no fabric can be carbonized which has cotton lists, as these are destroyed along with the other vege-

table matter, and the absence of a smart list down the sides of the cloth greatly detracts from its appearance. The common agents for carbonizing are—chloride of alumina for such cloths as have been wool dyed, and sulphuric acid for goods which require piece dyeing afterwards. The commercial chloride of alumina very often contains impurities in the shape of copperas, etc., which are capable of producing dark stains which cannot be afterwards removed, so that in every case the chloride should be tested to see that it is free from other metallic salts. Previous to treatment with aluminum chloride, the goods must be quite clear of any soap residues, as these unite with the alumina to form sticky alumina-soaps, which are quite insoluble in water and adhere to the goods like bird-lime. After the fabric is impregnated with the carbonizing agent it should be dried as quickly as possible, and then thoroughly well washed to neutralize it. In the acid state damages readily occur; drops of water, soap splashes, or sunlight will all cause stains, and the safest plan is to get carbonized stuff dried, washed, and out of the way.

Most of the bodies used in the textile industry, whether for yarns or machinery, with the single exception of petroleum, are bodies of constant and well known, because of fairly simple, constitution. With petroleum, however, the case is different, even including the refined and expensive brands. Compounds of sulphur and nitrogen, together with dissolved solid paraffins, are almost invariably present, and these contribute to the staining powers of the oil to an extent out of all proportion to the percentage of it which they constitute. In any case the oil in the stained places resists all the scouring employed as a preliminary to bleaching and dyeing. It is unsaponifiable and insoluble, and much of it is non-volatile, while the stains resist the bleaching agents used after the cleansing processes as effectually as they do the alkali boil. One of the reasons why petroleum stains are not visible upon grey cloth is generally attributed to the evaporation of the more volatile constituents which have previously held the less volatile bodies in solution. Singeing and pressing develop paraffin stains at once, by driving off the volatile portions and sending the residue deeper into the cloth. Even the fermentative processes with malt substances used for the breaking down and removal of size, have no effect whatever on petroleum stains, says the *Textile Recorder*.

There have been many experiments and suggestions to remove petroleum stains. The best are undoubtedly those which consist in adding to the scouring dyes after weaving a certain quantity of aniline of phenol, or any of the few cheap substances which have a solvent action upon mineral oils. Their drawback is uncertain in action, while it is obviously impossible to add any considerable proportion of them to a cleansing lye. Moreover, a fault these solvents have is that of re-depositing what they have previously dissolved when largely diluted with water, such as in rinsing out. Prevention is at any time better than cure, and it is commonly stated that if the mineral oil is kept down to under 30 per cent of the total lubricant, the removal of the vegetable oil which forms the remainder can be readily done in the lye-boil. Theoretically the soap formed by the saponifiable portion entangles the mineral oil and carries it away mechanically, but there is no doubt that dyers, printers, and finishers of all classes of textiles would be unanimous in favor of the total abolishment of paraffins.

Unfortunately, mildew is too well known in hot weather. The fungus which forms it is very partial to slightly alkaline cloths, so that scoured woolens and vat-dyed indigos are specially liable to it. Acids of any kind stop its development, and if goods must be left wet, say, at holiday times, they are safer for a slight sour in the rinsing. Damp, darkness, and warmth favor its growth, especially on goods containing size. Where gelatine or farina, etc, form the size, mildew first attacks these, so that in the incipient stages it can be stopped. When these bodies are exhausted, however, the fungus attacks the gelatinous parts of the wool fibre, and when this stage is reached is incurable. Chalk stains originate in the use of colored chalks for marking grey pieces, particularly in the mending room, where missing threads are indicated by a chalk line drawn on the

cloth. Other stains are caused by chalking on the distinguishing figures and letters at the ends, before the numbering is sewn in. If all chalks were simply made from organic colors together with a little pipe-clay or chalk, such stains would not occur. The commercial chalks sold for marking purposes of all kinds are, however, frequently composed of paraffin wax as a binding agent, together with mineral colors, such as red iron, acids, copper, and aresnical greens, ferrocyanides of iron, and chromates of lead. This latter is the most mischievous, as under the influence of steam and heat the sulphur naturally present in the wool changes it to an indelible black stain of lead sulphide.

Difficulties in Bleaching

Very disagreeable results may come about through the cellulose undergoing oxidation during the boiling-out or bleaching and oxycellulose being formed. The modification of the cellulose that takes place in this way is accompanied at the same time with a weakening of the fibre, and once the alteration has taken place, it cannot be remedied. Consequently, the greatest care requires to be exercised, with the object of preventing the formation of oxycellulose.

Dilute solutions of hypochlorites at the ordinary temperature affect cellulose slightly. Concentrated solutions, however, or prolonged treatment with hot solutions, in conjunction with atmospheric carbonic acid, readily produce oxycellulose. The affected fibre, besides losing strength, decreases considerably in elasticity. When the oxidation has progressed beyond a certain limit, the structure of the fibre becomes completely destroyed.

To prevent the formation of oxycellulose during the course of bleaching, at least one necessary precautionary measure to be observed is that, when the bleaching liquor is being replenished with a quantity of concentrated liquor, this should not be allowed to come into direct contact with the material. In much the same way, the alkaline peroxides, when in concentrated solutions at high temperatures, can affect the cellulose. The bleaching liquor in use should be quite clear and free from undissolved particles of bleaching powder, for these, if present, may become attached to the material and cause very serious damage.

In the boiling-out operation, the only fear of inducing the formation of oxycellulose arises through the presence of air in the kier during the boiling. A knowledge of this suggests the preventive measures to be observed. Oxycellulose does not make its presence apparent by imparting any coloration to the material, and often enough the fact of its occurrence only comes into evidence at a later stage.

If the affected material has to be dyed, say with the substantive dyestuffs, the defect becomes very apparent, the modified portions taking up very little coloring matter, if any at all, and remaining, therefore, almost white, or at any rate very much lighter in shade than the normal portions of the material. There are a number of reactions available for the detection of oxycellulose.

(*Continued on page* 13)

DICKS, DAVID CO., INC.

Manufacturers

Methyl Violets, Fuchsine and Soluble Blue

302 Broadway, N. Y.

Works: Newark, N. J. Chicago Heights, Ill.

Agents for Essex Aniline Co.

Inquiry Department

In the establishment of this department it is our desire to help the consumer in buying his products direct from the manufacturer or reliable dealer. Accordingly all questions relative to source of supply will be answered to the best of our ability in an impartial way.

Furthermore, we propose to help in any difficulties that consumers may be having with dyes and chemical products providing that questions do not involve simply tests, which can be readily obtained from those who specialize in such work.

We hope that the consumer will not hesitate in making use of the department, for all questions relative to processes, etc., will receive the personal attention of a chemist who is fully qualified to handle the subject.

Question—What is the action of Turkey Red Oil in the dyebath of direct colors and why would ordinary soap not do as well?

Answer—Turkey Red Oil being Sulphonated Castor Oil which has been neutralized with soda and ammonia is closely related to the true soaps but yet has some very distinct properties. When soaps are partly neutralized by contact with acid materials there is an immediate tendency for the fatty acid to separate, while in the case of a sulphonated oil, an emulsion results. The emulsifying power of the sulphonated oils is much greater at all times than soap and a particularly powerful action is exerted on the waxy matters of cotton as well as on the gum of silk, this in itself gives the effect of a clean fibre for the dye to combine with. Then all water from natural sources contains lime and magnesia which form insoluble lakes with dyestuffs and waxy soaps with the ordinary soaps. Although the quantity may be small the effect is a loss of color and brilliancy. The sulphonated oils, on the other hand, form with the earthy bases colloidal substances which remain in emulsified form and the affinity is so great that the dye is left free from their influence. Since the dye is allowed to come into close contact with the fibre a heavier shade is produced, further, the colloidal matter has a restraining influence on the process and promotes level dyeing. Finally, the slight amount of oily matter is absorbed by the fibre and gives a brightening effect. The total of these effects produces a result which makes the use of Turkey Red Oil advisable, but as with all good things an excess must be avoided, as the gummy feel and strong odor is likely to over-balance the good effect. It is always safe to use 2% of a 50% oil in the dyebath and with sulphur dyes this may be doubled.

Question—Would it not be possible to use Aniline Salt black on goods that were to be coated heavily with finish for book covers, and what is the best way of applying it?

Answer—It is well that you suggest a fabric that is not likely to require fastness to either washing or rubbing (as the finish protects it) for the old one-dip black can never be made fast to either of these influences, although the oxidized and steamed varieties would be satisfactory. While Aniline Black can be dyed in one bath on grey cotton, better results are obtained by dyeing it on a bottom of a direct blue or black. The dyebath is set with 2½ lbs. of Aniline Salt, 3 lbs. Bichromate of Soda and 3 lbs. Sulphuric Acid per 100 lbs. of goods. The cotton is worked for one hour cold, then for 15 minutes at 120 F. After dyeing, a good rinsing and soaping follows. The black is full and bloomy but does not stand washing very well, yet, under a heavy finish would make a cheap, fast black for the purpose mentioned.

Question—What method or methods would you advise in the dyeing of silk?

Answer—There are a number of different methods and are as follows:

First Method—A dye bath is made with boiled-off liquor, to which is added a little sulphuric acid, to make the bath slightly acid, together with the required amount of dyestuffs. This bath is started lukewarm and is gradually heated up to the boil. As a rule the bath will be exhausted of color. The silk is then taken out, rinsed and is passed into a weak acetic bath to brighten it. The dyebath may be used again for further lots. Where boiled-off silk is being dyed the bath may be made with Glauber's salt in place of boiled-off liquor. This method is applicable to all acid and azo dyes.

Second Method—The dye bath is made

with clean water, to which a little acetic acid is added, or boiled-off liquor broken with acetic acid is used. Start the dyeing at a lukewarm heat, work up to the boil, then rinse, brighten in an acetic acid bath, and dry. This method is available for the cosine range of dyes.

Third Method—A dye bath is made with the dyestuff and ¼ oz. of soda ash or borax per gallon of liquor. Work the silk in this at the boil for an hour, lift and pass into a bath of ¼ oz. sulphuric acid per gallon of water to raise the color, then dry. This method is applicable to the alkali blues and violets.

Fourth Method—Prepare the dye bath with 1½ ozs. soap and 1 dram of soap per gallon of liquor, with the necessary amount of dye stuff. Start the dyeing at a lukewarm heat, then raise nearly to the boil and work to shade, rinse and dry. This method is very useful for direct colors.

Fifth Method—Add a little acetic acid (1½ ozs. to one gallon) to the dye bath, start at a lukewarm heat and work up to the boil, rinse and dry. This method is applicable to all those direct dyes which are able to resist a weak acid.

Sixth Method—Dye in a bath with a little acetic acid, or use a boiled-off liquor bath broken with acetic acid. Start lukewarm, heat up to the boil, rinse and brighten with acetic acid. This method may be followed with such dyes as benzoazurine and brilliant azurine, which can be dyed in an acid bath and are fast to acids.

Seventh Method—Use a plain water bath starting lukewarm and finishing at the boil, or a boiled up liquor bath broken with a little acetic acid may be used. After dyeing brighten in the cold with acetic acid. This method is used with all basic dyes.

Standard Color Card Adopted

Announcement has been made that the Finishers' Association has formally adopted the standard color card of the Textile Color Card Association of America, 354 Fourth Avenue, New York. As the standard color card has previously been adopted by the National Association of Finishers of Cotton Fabrics, the action just taken by the Association points the way to a complete color co-operation between dyer and converter. No doubt, within a short time the entire cotton trade will follow the woolen, silk, millinery and hosiery trades in using the same colors. Standard colors is an American idea and already means much to manufacturer, retailer and consumer by preventing off shades which do not sell readily and when sold prevent color harmony in a costume.

A manufacturer said to us, "If the American consumer could imagine the amount of detail necessary to construct and operate a dyestuff plant, I am sure he would smile and inquire of the manufacturer, 'How could you do it?'"

Imports of colors and dyes for the eight months ending August 31 aggregated in value $1,825,434, as against $3,071,213 during the same period last year. Included in these imports were 2,240 pounds of alizarines, valued at $10,545.

United States Conditioning & Testing Co.

New York 340 Hudson St.
Philadelphia 205 Chestnut St.
Paterson 220 Ellison St.

General Textile Testing

Dyestuff and Color Tests

Microscopic examinations Photomicrographs

AMERICAN DYESTUFF REPORTER

Published weekly by
BLACK PUBLISHING CO.,
470 Fourth Ave., New York

DEXTER W. HEWITT, President
A. P. HOWES, Vice President
ELISHA HEWITT, Secretary and Treasurer

MYRON DREW REESER, Managing Editor

Domestic Subscription, $3 per year. Foreign, $4.
Advertising rates on request

Non-Partisan or House Organ?

Can the AMERICAN DYESTUFF REPORTER become firmly established as a non-partisan organ of the trade?

Affiliated with no particular company, can we hope to gain the interest of the actual consumer of dyestuffs and allied chemicals?

The AMERICAN DYESTUFF REPORTER is absolutely non-partisan, and is published with the aim of bringing to the consumer a clear statement of facts and developments in the dyestuff industry.

The opinion of each individual reader will decide the future of the REPORTER, and we ask others for an expression of their views.

Of the many letters which we have received, we publish a few which have a more or less direct bearing upon the subject.

Gentlemen:

Your publication has come to my attention and I will give you my opinion. Your recent issues have proven of much interest to me and I want to say that I wish your success.

I will be pleased to offer you such advice as I am able to give. If there is anything in particular on which you would like my opinion, would be pleased to hear from you.

The above letter was written by the president of one of the largest paper manufacturing plants in this country.

Another letter which came to us from a leading textile dye house has proven of much encouragement.

Dear Sir:

I have received the first issue of the AMERICAN DYESTUFF REPORTER. I believe you have started something of real value to the trade, and I shall look forward to each weekly issue.

Another interesting letter was received from a member of a dyestuff manufacturing plant who is an advocate of each company having a trade-paper or house-organ.

Gentlemen:

I received your little paper called the AMERICAN DYESTUFF REPORTER and I want to tell you truthfully what I think of it.

First I want to say that there is no need of your publication in the field. Then, too, you are trying to show up conditions in the industry, and no one wants that done.

We all know that some crooked firms are engaged in the dye industry, and all of the other things you say, but we don't want to be told of it.

You can't make your paper of value to the consumer, as he don't want to be told the true state of affairs as you are trying to do.

The best thing to do is to say nothing that might make the consumer think and keep the truth to yourself.

We submit the above letter without comment.

As a non-partisan organ of the trade, the REPORTER can give you a true statement of the development of each individual company.

Would you not rather be told of conditions in the industry than be told of conditions in one particular company?

The REPORTER now treats on generalities, but our policy in this particular will be influenced by conditions in the industry.

When the industry shall have become systematized and the consumer shall have learned conditions, then can the REPORTER give you service of a technical nature equal to that of any organ of an individual company.

Technical treaties that will appear in the REPORTER will be written by men who know the industry and who are not bound to serve any particular company.

Notes of the Trade

The Prospect Dye Works, Reading, Pa., has awarded a contract to the Metropolitan Edison Company, of that city, for their supply of power. Attention is called to the possibilities of the use of electric power in such plants where the greater part of the steam generated is utilized in their various processes rather than for power.

The Stratford Chemical Works, Inc., Newark, N. J., have been incorporated, to manufacture chemicals and allied products. The capital is $250,000. Incorporators: William A. Keener, Newark; Z. Burns and Sigmund Weitzenblum, New York.

F. E. Atteaux & Co., manufacturers of chemicals, have awarded a ontract for the erection of a new two-story reinforced-concrete factory building, about 65 x 170 feet, at South Boston, Mass.

Fire recently destroyed a portion of the plant of Hine Bros. Color Works, at Cook's Falls, N. Y., with loss estimated at about $8,000.

We are in receipt of an inquiry from a paper house asking the REPORTER to tell them where they can obtain Ultramarine Blue.

Information on this subject from manufacturers will be appreciated.—*Editor.*

The Feindel & Pasquier Chemical Corp., New York, has been incorporated to manufacture chemicals. The capital is $10,000. Incorporators: E. E. Feindel and M. Pasquier, 431 West Twenty-fourth street, New York.

The Arco Chemical Co., New York, has been incorporated to manufacture chemicals. Nominal capital, $5,000. Incorporators: J. N. and E. Goetshoff and A. Radtzky, 982 Prospect avenue, Brooklyn.

Merck & Co., Lincoln avenue, Rahway, N. J., manufacturers of chemicals, have awarded a contract for the erection of a new one-story brick addition to their plant, about 44 x 100 feet, to cost $12,000. Salmond Bros., 526 Elm street, Arlington, are the contractors.

American Dyewood Co.

... Manufacturers of ...

Dyewood Extracts

Chipped and Ground Dyewoods

Importers of

Aniline Colors and Indigo

NEW YORK PHILADELPHIA BOSTON HAMILTON, ONT.

Works: CHESTER, PA.

One of the largest dyestuff manufacturing companies in this country sends us the following interesting announcement regarding their development of certain dyestuffs.

They inform us that they are manufacturing a new Black, H Extra, which product, they say, compares favorably with that formerly imported.

They are also offering another color known as Black B. This they say, is an acid dyeing black that is especially suited for piece dyeing where great fastness to light without chroming is desired. This color is also used for knitting yarns and hosiery. They assure us that this black is very satisfactory as a silk dye.

Holders of two-year first mortgage 6 per cent. notes of the Federal Dyestuff & Chemical Corporation have been requested to deposit these notes with the Equitable Trust Co. of New York. The purpose of this action is to co-operate in protecting the noteholders' interests in the property in connection with the recent appointment of receivers.

A Boston office has been opened by Bachmeier & Company, Inc., dealers in dyestuffs. This office, which is located at 261 Franklin street, is necessitated by the growing business of the concerns in the New England territory. It will be in charge of J. A. L. Wallon, a resident of Boston.

The following letter was received November 14th from a manufacturing plant in New Jersey:

> Gentlemen:
>
> In one of your issues of the Reporter we find in the columns devoted to questions of your readers that a spirit soluble red dye is wanted.
>
> We are manufactufacturers of Majenta, and are also placing on the market two spirit soluble reds.
>
> If any of your readers are interested we will be glad to forward samples to you.

One of the best known dyers in the leather field informs us that the cause of variation in color is not due to the quality of the color, but the employment of insufficient help.

He further assures us that the dyes and the formula used could not be improved upon.

The color most in demand now and for spring is a soft tone of Brown.

The E. Virgil Neal Chemical Works, 110 West Fortieth street, New York, has plans prepared for the construction of a new addition to their chemical manufacturing plant at Van Dam street and Borden avenue, Long Island City. John M. Baker, 9 Jackson avenue, Long Island City, is the architect.

Imports of logwood for August amounted to 5,547 pounds, valued at $134,376, as against 22,358 pounds, valued at $848,900, during August last year.

Thorough Rinsing Is a Necessity

No trace of soap should be left in goods by the time they reach the dyeing operation. All soap residue is decomposed in an acid liquor, and the fatty acid so liberated at once attaches itself to the fibre, and it that way becomes an effective hindrance to uniform dyeing. After treatment with soap and soda, the material should, therefore, be most thoroughly rinsed with water, and for the best results the water used for the purpose should be soft, otherwise limesoaps will be formed on the wool, and these are very difficult to remove and may, in turn, give rise to faults in dyeing. Moreover, it is very advisable that the material should be rinsed as soon as possible after the soaping, for prolonged contact with the alkaline liquor might cause subsequent faults.

The operation of carbonization is also likely to give rise to faults. Again, in this instance, the material should be washed well after the treatment with acid for the removal of the vegetable fibres present, for there appears to be no doubt that prolonged contact of the wool with the acid exercises on that fibre an action

almost comparable to that it produces on the vegetable fibre. At any rate, goods which have just been carbonized should not be left for any time in close proximity to goods which have not to be submitted to carbonization, for the latter will quickly absorb acid in some way from the former, and so give results after dyeing of such a character that the only remedy will be to dye the lot black.

Other faults that are likely to be encountered may be due to iron or copper marks on the cloth. The main comment to make concerning these possible causes of faults is that all endeavors should be made to prevent their occurrence, for in the observance of that advice lies the line of least resistance. Iron stains may, of course, be removed at times but the attempt involves treatment with oxalic acid, and should the solution be too strong the fibre becomes adversely affected, and if too weak the stains are not removed, and so the curative measures are more difficult than the preventive.—*The Dyer & Calico Printer.*

The Conditioning House

A Brief Summary of What a Conditioning House Is and What Direct Relationship It Has to the Dyestuff Industry.

For the benefit of those not familiar with the subject, it may be briefly stated that a Conditioning House is an institution conducted in the interests of the Silk industry. It is primarily a place where textile tests are made impartially in the mutual interest of both buyer and seller. Both parties agree that the report shall be the basis on which settlement is made. Everything connected with the work must be done with one sole object in view—the obtaining of results in terms of measurable quantities without regard to who is benefitted thereby. While the institutions in various countries were all primarily devoted to silks, it was not long before the general textile interests saw the advantage of having their testing done by a semi-official institution free from all commercialism. The many problems of textile manufacturing, dyeing and finishing, while often solved by the men connected with the dyestuff dealers, had but one object in view—the introduction of the materials sold by that firm.

While some manufacturers and dyers were content to thus place themselves in the hands of their supply men, others preferred to remain independent and buy where they found the best bargains. The result has been that the chemical and microscopic work of the Conditioning House has increased to such an extent that it was necessary to make a feature of this branch of the textile industry. It happened that the man selected to conduct this department had been for many years in charge of the laboratory of one of the large dyestuff houses, and his familiarity with dyes and dyeing processes led him to add dye testing to routine tests of the laboratory. The idea of having dyestuffs tested under the auspices of such an institution could not fail to appeal to the users and dealers and the result has been a volume of clients that at times distanced their efforts to enlarge or to train assistants to take care of the work.

We recently visited the United States Conditioning and Testing Co., which is the formal name of the American institution, and were amazed at the extent of the work. The vaults contained over two million dollars' worth of silk in process of testing, there were dozens of weighers, samplers and porters getting the lots ready and on the top floor were many rows of ovens with balances attached where the moisture is determined. In another place were rows of kettles where the gum is boiled off, machines with reels and spools where winding tests are made, others that measure the size, and delicate serimeters that give the elasticity and tenacity or stretch and break test. On the floor below is a room of constant temperature and humidity where the most careful textile and paper tests are performed and where research along various lines is condusted.

The chemical laboratories are not of the kind we see in illustrated catalogues, but show evidence that work is in progress. The routine analysis of mill supplies, such as soaps, oils, finishes, etc., is conducted in the ordinary manner and needs no comment.

Dyes are tested in two ways, by actual dyeing of a definite amount of the dye on a skein of uniform weight, by the regular process for that dyestuff, and also by colorimetric measurement. Dyeings are

made in porcelain beakers heated by a Calcium Chloride bath. They are turned by glass rods and only water purified by the Permutit process is used. Mordants are prepared separately in large lots and large lots of materials are dyed in enamelled kettles on gas stoves. Dye tests depend for their accuracy on the sensitivity of the eye and it has been found that few can detect less than 5% difference in strength. For this reason the more exact determinations of strength must be made in a colormeter. Most of the colormetric work is done in the Campbell-Hurley instrument, but for very accurate determinations the Kobel colorimeter and nephilometer is used. Tests were being made of the fastness to light of some army goods under an Ultra Violet ray apparatus which fades in an hour as much as a day in the sunlight. There are a number of Government tests to which manufacturers must conform for both Army and Navy goods, and such tests form part of the daily routine.

The examination of spots and defects in goods under the microscope is very interesting and if demonstration needs to be made the image can be projected on a screen in a darkened room or a photomicrograph be made for future reference. A sample of dyestuff containing salt or dextrine is very striking in appearance under these conditions.

It is hardly necessary to go into further detail regarding this work, but it is certainly a pleasure to come in contact with an organization devoted to clean business, and where the making of profit is not the sole object of its existence.—*Editor.*

Linen Dyeing

(*This article appeared first in the "Dyer and Calico Printer" of London, and we are requested to give credit to this publication.*)

Like all kindred industries, linen dyeing has altered considerably since the war, although, on the whole, the drawbacks and disadvantages arising from the scarcity of colors is not nearly so bad as extremists represent. Shortly after the commencement of hostilities we were told that the linen dyeing industries would all be closed down until German dyes were again available, and this has proved exaggerated pessimism. Certainly the work is not running as easily and smoothly as when every color was available; all the pre-war shades are not obtainable, and not every brand of a dye can be relied on. Deliveries of dyes are usually in very small quantities. To match a lot of goods exactly to a former shade is really very difficult, but customers are ready to make allowances in this matter. A good many colors now on the market seem to be all right when in the dye-bath, but when subjected to the drying process, the color leaves the fabric, and instead of, say, the desired brown, the result is perhaps a drab or a slate.

In linen dyeing, except in the case of very deep shades or blacks, the goods require to be cleaned out before the dyeing. This is usually done by first a scald in a lime solution, 5 to 10 per cent. of the weight of the goods, followed by a hydrochloric or sulphuric acid sour at ½ to 1 deg. Tw. Paler shades require a caustic soda boil in addition to the lime boil and sour, and only in the case of very bright shades is it necessary to subject the goods to a chloride of lime solution. The chloride of lime bath must always be followed by a hydrochloric or sulphuric acid sour, as a level shade cannot be got from a dip bottom. For very fine qualities of goods the yarns are generally boiled before weaving, and they are then ready for the caustic boil, and this is not nearly so hard on the goods as drastic treatment in the woven state.

Dyestuffs suitable for cotton goods are also suitable for linen goods, with the reservation that it must be borne in mind that the linen fibre is harder than cotton and not so easily penetrated; the absorption of the dyestuffs must, therefore, be retarded as much as possible. In dyeing linens with sulphur colors the quantities of the dyestuffs and salt must be decreased as compared with the proportions used for cottons, and the quantity of sodium sulphide increased. The penetration is improved by a suitable oil or soap. Basic colors are dyed on linen on a mordant in the same way as cottons, but with smaller quantities of tannin, and the process should be carried out at a higher temperature and somewhat prolonged. When dyeing the goods so treated, the quantity of acetic acid should be in-

creased and also amount of alum. The after-treatment is usually done in a boiling hot bath charged with ¾ per cent bichromate of potash, 2 per cent sulphate of copper, and 4 per cent acetic acid, 2 to 4 ends, then rinse.

Goods intended for blacks require no clearing process before dyeing, and it is for black that direct cotton colors are badly missed, as when dyes were plentiful no black goods except those intended for a highly beetled finish were dyed with logwood. In the case of canvas of poor stiffenings, the goods were entered into the dyebath direct from the loom without any preparation, using, say, 2 per cent of a direct black, 4 per cent Glauber's salt, 1 per cent soda ash, and given 6 ends. When they lay a few hours they were ready for finishing, and as no mordanting or after-treatment was required, a large output was easily obtained. One jigger gives as large an output with the direct colors as two jiggers now with logwood; thus man-power was saved as well as all the preliminary treatments required for logwood colors.

(*This article will be continued in the next issue of the Reporter.*)

Difficulties in Bleaching

(*Continued from page* 3)

Experiments have shown that certain basic dyestuffs, such as Methylene Blue and Magenta, are taken up much more quickly by oxycellulose than by normal cellulose. In this case the intensity of the coloration is an indication of the degree of oxidation which has taken place. Indanthrene Yellow gives a serviceable reaction in a simple manner. Oxycellulose in the presence of a small amount of this coloring matter becomes colored a deep blue when boiled with an 8 per cent solution of caustic soda.

About the simplest means, however, for the detection of oxycellulose in white goods is the steaming test. The affected places becomes very tender, and colored yellowish. Although the strength thus lost cannot be regained, the discoloration may be removed by treating with a dilute solution of bleaching powder or a weak alkaline solution of hydrogen peroxide.

Besides oxycellulose, a product, hydrocellulose, can be formed during the bleaching. It is the result of the influence of mineral acids under certain conditions.

Mineral acids upon undergoing concentration in the material during the drying definitely affect the fibre in making it tender. Thorough washing at the proper time is the preventive measure. Organic acids are far less harmful. The only one to be feared in this respect is oxalic acid, and when it has been employed for removing iron-stains it should be well washed out before the material is dried.—*Possett's Textile Journal.*

Many in Favor of Proposed Meeting of Manufacturers

Favorable replies continue to be received from all parts of the country, says Drug and Chemical Markets, concerning the proposed meeting of the American manufacturers and dealers in colors and dyestuffs. A conservative estimate places the number of dealers in colors and dyestuffs in America at 756 and the number of manufacturers at more than 100. Each of these dealers and manufacturers will be advised of the definite arrangements as they develop and will have the opportunity to co-operate in bringing about the organization of the National Association during the week of January 21, 1918. Included in the partial list of replies given below is one from perhaps the largest manufacturer in America, and encouragement continues to pour in from all directions.

The Stanley Anilin Chemical Works, Lock Haven, Pa.—"In reply to your letter concerning meeting for manufacturers and dealers in American dyestuffs will say that the same is satisfactory to us; also the date of January 21, 1918, or thereabouts, is a satisfactory date. We would be glad to hear more from you on the subject."

The Ault & Wiburg Company, Cincinnati, O.—"We have your letter relative to a proposed meeting for the standardization of American dyestuffs. We have the matter under consideration and you may expect to hear from us further."

Western Aniline Products Company, Company, Chicago, Ill. — "Answering

yours of the 18th, regarding the standardization of American colors. We will be glad to co-operate in any way possible, as we are intermediate makers."

M. L. Barrett & Co., Chicago, Ill.—"We will be very glad to work along with the manufacturers and large consumers in promoting high grade goods, all shades and grades at the lowest cost."

National Aniline & Chemical Co., Inc., New York City.—"We will have a representative at the meeting you propose to hold for the standardization of American colors and we should appreciate it if you would be kind enough to advise us in due course as to the time and place of this meeting."

MacAndrews & Forbes Company, New York City.—"The matter of standardization of American colors must necessarily be of interest to all manufacturers of these products and we will be quite willing to have a representative at the meeting of these manufacturers, as indicated in yours of the 18th. Kindly advise of whatever other steps may be taken regarding the proposed meeting."

Holland Aniline Company, Holland, Mich.—"Replying to your letter would state that we believe your idea is a good and practical one and we will try to arrange to be present at the conference. You will undoubtedly keep this matter on file and inform us at least a week ahead of the definite date decided upon."

Frank L. May & Co., Inc., New York City.—"We will be very glad to co-operate with any others during the week of January 21, 1918, on the subject mentioned in your letter of October 18th."

Chas. L. Huisking, New York City.—"We shall be glad to take part in such conference as mentioned in your letter concerning the standardization of American colors, and we thank you for bringing the matter to our attention."

Concerning the Standardization of American-made Dyestuffs

"1. The movement in the drection of effecting a proper standardization of American made dyestuffs has a phase which should be considered by the United States Government in relation to the new schedule of rates of duty established last year, and which may possibly be further advanced by fresh legislation.

"2. It is absolutely essential that the United States Government should align itself with this effort for the standardization of American colors and for the purpose of establishing a range of trade standards on which the new specific duty can be based.

"3. The Deutschland submarine, as is well known, brought over some exceedingly concentrated dyes, which, if invoiced at their proper value, would be subject to the 30% ad valorem impost but which would not pay any more specific rates of duty than an unconcentrated standard type.

"4. For instance—take the case of a dye which would be invoiced in normal times at, say, 20c per lb., but which possibly was five times concentrated. This dye should then be invoiced at $1.00 per lb., and should be subject to 30% ad valorem duty assessment. It would not, however, be subject to any more than 5c per lb. specific rate, or no more on this specific rate than an unconcentrated dye. This would therefore make the cost of this dye, duty paid, $1.35, which divided by five to bring it down to the standard concentration, would make this dye cost 27c, whereas it should be subject, as far as the specific rate is concerned, to a sliding scale, increasing the specific duty rate in relation to the increased concentration.

"5. *The Government should unquestionably assess concentrated dyes at a higher specific rate in proportion to the concentration than is assessed on the standard trade concentration* as otherwise, it will be quite possible for the German manufacturers to very largely defeat the efforts of the United States Government in affording proper protection to American-made dyestuffs.

"6. This is a question which can very properly receive the attention of the Tariff Commission in establishing such a sliding scale wheih will be fair to all concerned."

Dyestuffs and Chemicals That Are Actually Obtainable

We suggest to our readers that they carefully preserve these lists, as in their complete form they will give a full and accurate record of the sources of supply of all dyestuffs and chemicals manufactured or handled by reputable American companies.

Owing to the number of companies who are now concentrating on Khaki, this list will include only the colors that are being manufactured at this time.

We have been critcised and congratulated upon this policy and in view of the fact that the majority are in favor of its continuance, you will see each week a list of colors made by, or sold by, manufacturers who are handling the best products obtainable.

We will be glad to list any manufacturers or selling agents who are known to be reliable.

Any erroneous listings can be corrected only with your assistance and we ask you to co-operate with us accordingly.

H. KOHNSTAMM & CO.
83-91 Park Place, N. Y.

This company claims to manufacture the following colors in pulp and dry form:

Soluble Prussian Blue
Insoluble Prussian Blue
Chinese Blue

STERLING COLOR CO., INC.
72 Front St., New York

This company is the sole selling agent for the Peerless Color Co., of Bound Brook, New Jersey.

Direct Cotton Colors
Primuline
Methylene Blue

MELROSE CHEMICAL COMPANY
Melrose, Massachusetts

This company claims to actually manufacture the following products:

Acetanilide (*Commercial*)
Paranitroacetanilide
Paranitraniline (*Spirit Soluble*)
Acetinduline Blue
Nitrosodimethylaniline
Gallo Chrome Navy Blue (*This Color for Wool*)
Prussian Blue (*For Paper*)

ALLIANCE CHEMICAL COMPANY
176 Federal St., Boston, Mass.

This company is offering the following colors which they claim are made in Massachusetts:

Fast Chrome Red
Fast Chrome Green
Fast Chrome Yellow

TURNER AND HEFLER CO.
Hyde Park, Mass.

This company is also offering the following made-in-Massachusetts colors.

Chrome Brown
Chrome Yellow

These colors are offered for Wool and worsted.

DUNKER & PERKINS
287 Atlantic Ave., Boston, Mass.

This company is the New England representative of the Federal Dyestuff and Chemical Company of Kingsport, Tennessee. We are informed by a member of this organization that the manufacture of dyestuffs will be continued when an agreement is reached with the new incorporators.

They offer: Khaki O

RELIANCE ANILINE & CHEMICAL CO.
100 Broadway, New York

We are informed by this company that they produce the following color:

Methylene Blue

ATLAS COLOR WORKS, Inc.

Manufacturers of

Indigotine
Natural and Synthetic
Indigo Extract
Indigo Paste
For Cotton

SALES OFFICE:
322 Ninth St., Brooklyn, N. Y.
WORKS:
Hamilton Ave. and Gowanus Canal
Brooklyn, N. Y.

National Aniline & Chemical Co., Inc.
244 Madison Avenue **New York**

THE LARGEST
MANUFACTURERS
OF
ANILINE COLORS
AND
COAL TAR PRODUCTS
IN AMERICA

BRANCH OFFICES:

BOSTON
PHILADELPHIA
CHICAGO
CINCINNATI
BUFFALO
HARTFORD
PROVIDENCE
CHARLOTTE
MILWAUKEE
MINNEAPOLIS
KANSAS CITY

FACTORIES:

BROOKLYN
BUFFALO
WAPPINGERS FALLS
MARCUS HOOK